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Active Cooperative Research and Development Agreements (CRDAs) in FY 2015					
Award Date	**FAA R&D Program**	**FAA POC**	**CRDA Number**	**Industry Partner**	**Subject**
9/7/1994	Airport Technology	Nick Subbotin	94-CRDA-0065	Engineered Arresting Systems Corporation	Testing of soft ground arresting system developed to safely stop aircraft that overrun the available length of runway
7/29/1996	National Aviation Pavement Test Facility	Nick Subbotin	96-CRDA-0097	The Boeing Company	Transfer of technology and resources between FAA and Boeing to establish the National Airport Pavement Test Machine at the FAA Technical Center in Atlantic City, NJ.
4/5/2002	Airport Technology	Lauren Vitagliano	01-CRDA-0164	The Boeing Company	Utilization of statistical analysis for determining airplane contact risks of varying span airplanes on taxiways of varying separation.
7/17/2002	Air Traffic Management	Albert Rehmann	02-CRDA-0171	The Boeing Company	This agreement supports the identification of ATM improvements for NextGen aircraft design and avionic interoperability with NAS systems as well as identification, quantification, and prioritization of capacity improvements that would be supported by high fidelity modeling and simulation
1/2/2012	Airport Technology and Safety	Chu Yao	06-CRDA-0216	Rowan University	Development and improvement of a graphical user interfaces for the display of recorded air traffic data, the display of the predictions of this air traffic data from National Airspace System decision support tools, and a Visualization Framework for radar data integrity.
10/30/2007	Airport and Aircraft Safety Research	John Bakuckas	07-CRDA-0236	The Boeing Company	Investigate the use of bonded repair techniques; analytical analysis methods applied to common structural repairs on existing Boeing fleet aircraft such as cracks, gauges, corrosion lighting strike or other typical damage.
2/19/2008	Unmanned Aircraft Systems Research	Bill Crozier	08-CRDA-0245	New Mexico State University	Support integration of Unmanned Aircraft System (UAS) into the National Airspace System.
12/10/2008	Air Traffic Control Simulation	Joseph DiLuzio	08-CRDA-0251	Diakon Solutions, LLC	Develops, produces, commercializes, supports and advances the Sun Keyboard System Translator (SunKeyST) capability.
1/27/2009	Aircraft Geometric Height Measurement Element (AGHME) Capability	Joseph Diluzio	09-CRDA-0257	Diakon Solutions, LLC	Facilitates the development, test, installation and implementation of a production-model Aircraft Geometric Height Measurement Element (AGHME) capability.
6/15/2009	Unmanned Aircraft Systems Research	Neal Suchy	09-CRDA-0258	General Atomics Aeronautical Systems, Inc.	This CRDA is a mechanism to perform a series of collaborative unmanned aerial vehicle (UAV/UAS) modeling, simulation, demonstration and analysis activities.
6/26/2009	Unmanned Aircraft Systems Research	Karen Buoundonno	09-CRDA-0259	AAI Corporation	Perform variety of operational and technical assessments to meet specific objectives to support integration of Unmanned Aircraft Systems (UAS) into the National Airspace System (NAS).
6/19/2009	Unmanned Aircraft Systems Research	Michael McNeil	09-CRDA-0260	GE Aviation Systems, LLC	Perform variety of operational and technical assessments to meet specific objectives to support integration of Unmanned Aircraft Systems (UAS) into the National Airspace System (NAS).
5/13/2010	Unmanned Aircraft Systems Research	Mike Knoyak	10-CRDA-0266	Insitu, Inc.	Unmanned Aircraft Systems (UAS) industry is actively seeking opportunities to optimize the capabilities of UAS technology and expand their horizons by non-military applications that will support the establishment of civil aviation standards.
12/23/2010	Air Traffic Management	Steve Beamer	10-CRDA-0268	United Parcel Service Company	Collaboration on many surface initiatives in Air Traffic Management (ATM) in order to obtain additional information regarding the usefulness of the Surface Decision Support System (SDSS).

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3/25/2011	Human Factors	Ben Willems	11-CRDA-0272	The Richard Stockton College of New Jersey	This collaborative partnership explores potential relationships between the Index of Cognitive Activity (ICA) and characteristics of the air traffic control task.
1/20/2012	Aviation Research	Warren Underwood	12-CRDA-0281	United Parcel Service Co.	Collaboration to observe anti-icing fluid failure characteristics on aircraft flaps and slats under conditions of winter precipitation and simultaneously observe fluid failure behaviors on aircraft wings.
6/12/2012	NextGen	Ian Levitt	12-CRDA-0282	NextGen AeroSciences, LLC	Technical evaluation of NextGen AeroSciences airspace modeling approach for assessment of FAA NextGen Air Transportation System Concepts.
5/29/2012	NextGen	Robert Erikson	12-CRDA-0284	Moog, Inc.	Identify changes to Distance Measuring Equipment (DME) transponders that will allow enhanced DME system performance in support of navigation and positioning in a non-GPS environment
7/2/2012	Aviation Research	Joseph Breen	12-CRDA-0285	Team Eagle Ltd	This CRDA will allow a collaborative effort between Team Eagle Ltd. and the FAA in the study of aircraft braking performance on contaminated runways.
7/18/2012	NextGen	Michael Prata	12-CRDA-0286	Selex Systems Integration, Inc.	The purpose of the partnership is to reduce transponder occupancy time in order to alleviate 1030/1090 MHz spectrum congestion.
8/14/2012	Human Factors	Daniel Johnson	12-CRDA-0287	Brainventions, Inc.	Collaborative partnership to conduct the exploration of automatic speech recognition technologies in Air Traffic Control (ATC) research within the Human Factors (HF) Branch.
1/30/2014	Environmental Management Program at the Technical Center	Kendra Moran	13-CRDA-0288	The Richard Stockton College of New Jersey	Participate in cooperative research and development projects involving field and laboratory environmental studies.
11/29/2012	NextGen	Scott Doucett	13-CRDA-0289	The Boeing Company	Technical evaluation of Federal Aviation Administration (FAA) Next Generation (NextGen) Air Transportation System concepts and other mutually beneficial aviation research.
6/24/2013	Aviation Research	Joseph Breen	13-CRDA-0292	ESCO	Collaborative partnership in development of a body of data to support the feasibility, marketability, and certification of a safety system designed to provide useful system alerts to flight crews both during own ship and follow-on operations when encountering unexpectedly sub-optimal ground based deceleration.
9/29/2014	Air Traffic Operations	Steve Beamer	14-CRDA-0295	FedEx	Addresses NextGen surface initiatives to evaluate the viability and benefits of new concepts and applications in an operational environment. Evaluates Surface Decision Support System (SDSS) and Non-Movement Area (NMA) surveillance.
11/4/2013	Aviation Research	Michael Walz	14-CRDA-0296	Ametek Aerospace and Defense	To work collaboratively towards the development of solid state Electronic Power Distribution Systems (EPDS)for aircraft and support industry standards.
7/25/2014	Aviation Research	Keith Bagot	14-CRDA-0297	DFW	To advance the technology in aircraft rescue and firefighting through shared resource investment by both the FAA and DFW.
4/29/2014	Aviation Research	Michael Walz	14-CRDA-0298	Astronics AES	To provide access to testing equipment, technical expertise and setups for prototype testing of solid state power control devices. This technology is currently displacing standard electromechanical devices that have been used for years.

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6/6/2014	Unmanned Aircraft Systems Research	Charles Cliff Johnson	14-CRDA-0299	Northrop Grumman Systems Corporation	Operational and technical assessments to meet specific objectives to support the integration of Unmanned Aircraft Systems (UAS) into the National Airspace (NAS) in support of existing and future certification paths for UAS airframes and system components.
8/14/2014	Laboratory Services	Christopher Malitsky	14-CRDA-0300	Exelis, Inc.	The performance of Internal Research and Development (iRaD) activities by Exelis, Inc. under FAA sponsorship (ANG-C5). System Wide Information Management (SWIM) service will be provided via the NAS Enterprise Messaging Service (NEMS)
9/9/2014	Unmanned Aircraft Systems Research	Stephen Plishka	14-CRDA-0302	Cable News Network (CNN), Inc.	This Agreement supports the exploration into the use of Unmanned Aerial Systems (UAS) in news coverage.
12/15/2014	AVGAS	Dave Atwood	14-CRDA-0304	Shell Global Solutions (US) Inc.	This agreement supports testing unleaded fuels admitted into the FAA testing program under the FAA Solicitation DTFACT-13-R-00015.
11/4/2014	AVGAS	Dave Atwood	14-CRDA-0305	Swift Fuels, LLC	This agreement supports testing unleaded fuels admitted into the FAA testing program under the FAA Solicitation DTFACT-13-R-00015.
10/1/2014	AVGAS	Dave Atwood	14-CRDA-0306	Total Marketing Services	This agreement supports testing unleaded fuels admitted into the FAA testing program under the FAA Solicitation DTFACT-13-R-00015.
5/28/2015	Unmanned Aircraft Systems Research	Chas Lin	15-CRDA-0307	Rockwell Collins	This agreement provides the opportunity for evaluating the performance standards Command Non Payload Communication (CNPC) for small Unmanned Aircraft Vehicle (UAS)/UAV.
5/15/2015	National Airport Pavement Test Facility located	Albert Larkin	15-CRDA-0308	Rowan University	This agreement supports the collaboration between Rowan and FAA into R&D activities of mutual interest, and the sharing of information resulting from related studies, tests and analyses in the fields of airport pavement, safety and capacity.
8/12/2015	Full Scale Aircraft Structural Test Evaluation and Research (FASTER) lab	John Bakuckas	15-CRDA-0310	ALCOA	To reduce fabrication, operational, and maintenance costs by introducing advanced materials, construction methods, and production technologies.
6/12/2015	Unmanned Aircraft Systems Research	Gemechu Gelgelu	15-CRDA-0313	PrecisionHawk USA, Inc.	To support collaborative research and development activities between the FAA and PHK for the collection of data, the development of operational standards, and the creation of technologies necessary to ensure an adequate level of safety in UAS operations

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Active Aviation Grants in FY 2015					
Award Date	**FAA POC**	**Grant Number**	**Grant Title**	**Recipient Institution**	**Award Amount**
3/15/2012	Ted Urda	CTT12G003	Air Navigation Based on Global Navigation Satellite System	Board of Trustees of the Leland Stanford Junior University	$6,600,000
5/3/2012	Ndubuisi Nnorom	CTT12G005	Design and Implementation of an ALS Protection and Power Quality Control Scheme with Improved Performance	Howard University	$279,000
8/22/2012	Richard Lyon	CTT12G011	Analyses of Flammability Reduction by Gas-Phase Flame Retardants and Ignitability of Lithium-Ion Batteries	University of Maryland	$531,170
8/24/2012	Edward Weinstein	CTT12G012	Probabilistic Fatigue Management Program for General Aviation	The University of Texas at San Antonio	$1,196,895
9/1/2012	Christopher J Wolf	CTT12G013	Ground Based Augmentation Systems (GBAS) Integrity Research for Category 3 Aircraft Precision Approach	Illinois Institute of Technology	$200,211
9/27/2012	Jason Burns	CTT12G014	Space Based Augmentation Systems (SBAS) and Advanced Receive Autonomous Integrity Monitoring (ARAIM) Research for Civil Aviation	Illinois Institute of Technology	$694,484
9/5/2012	Ryan King	CTT12G015	CEAT Airport Safety Management Program	The Board of Trustees of the University of Illinois	$5,249,281
3/15/2013	David Moorcroft	CTT13G005	Occupant Safety in Obliquely Mounted Aircraft Seat Systems	Medical College of Wisconsin	$1,000,000
9/1/2013	Donald Gallagher	CTT13G009	Airport Lighting and Visual Guidance: Technology and Human Factors Research	Rensselaer Polytechnic Institute	$1,573,294
9/1/2013	Tom McCloy	CTT13G011	Development of Normal Procedures for Airline Operations	Decision Science Research Institute	$869,584
8/8/2013	Albert Larkin	CTT13G013	Surface Characteristics with 3D Data and Improved Airport PCI Survey Solutions	Oklahoma State University	$1,014,907
9/1/2013	Navneet Garg	CTT13G016	Three-Dimensional Finite Element Modeling of High Tire Pressure Effect on Airport Pavement	Rutgers, The State University of New Jersey	$152,035
9/25/2013	Navneet Garg	CTT13G017	Nano-Engineered Smart Tarmacs for Detecting Distributed Surface and Subsurface Pavement Damage	The Regents of the University of California	$472,216
9/6/2013	Navneet Garg	CTT13G018	Stone Matrix Asphalt (SMA) Evaluation for the National airport Pavement Test Facility (NAPTF)	Rutgers, The State University of New Jersey	$126,320
9/1/2013	Tom McCloy	CTT13G019	Preventing Clutter and Confusion on NextGen Flight Decks; Guidance for the Design, Evaluation, and Approval of NextGen Visual, Auditory and Tactile Displays and Controls	Regents of the University of Michigan	$1,013,485
9/17/2013	William Emmerling	CTT13G020	Material Model Development and Its Application Using Finite Element Methods in Engine Failure Analysis	George Mason University	$1,158,783
9/18/2013	Jerome Lard	CTT13G021	Improving Human and System Performance in TechOps	American Institute for Research	$1,499,996
9/24/2013	Traci Stadtmueller	CTT13G024	Provide Standardized Approach to Advanced Helicopter Flight Control Development Process that will Lead to Certification	Helicopter Association International	$204,784
9/22/2013	Navneet Garg	CTT13G025	Development of a Testing Program to Develop Specifications for RAP & RAS Used in Airfield Pavements	Regents of the University of California	$299,997
9/25/2013	Navneet Garg	CTT13G026	Analysis of National Airport Pavement Test Facility (NAPTF) Test Data for Use in Improving FAA Pavement Design Procedures	Regents of the University of California	$299,298
1/23/2014	Charles C Johnson	CTT14G001	Collect, Aggregate, and Disseminate Rotorcraft Flight Data Monitoring Data to Provide Data Driven Safety Analysis	Helicopter Association International	$357,175
5/22/2014	Jennelle Derrickson	CTT14G002	Determining the Effectiveness of Safety Management Systems: A Research Investigation	Embry-Riddle Aeronautical University	$148,228
4/28/2014	Jerome Lard	CTT14G003	Improving Human and System Performance in Air Traffic Control	American Institute for Research	$874,885
6/25/2014	Robert Ochs	CTT14G004	Collaborative Research Supporting FAA Fire Safety Mission through a FAA-Rutgers Graduate Assistant Support	Rutgers, The State University of New Jersey	$319,761

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Award Date	**FAA POC**	**Grant Number**	**Grant Title**	**Recipient Institution**	**Award Amount**
7/24/2014	Tom McCloy	CTT14G005	Identifying CRM Approaches for Enhancing Flightcrew Performance	University of Central Florida	$160,734
7/24/2014	Andrew Cheng	CTT14G006	Computational Assessment of Landing Performance	University of Massachusetts Boston	$124,193
9/2/2014	Charles C Johnson	CTT14G007	Proposal to Performa Literature Review in Support of TCRG Task 14-05: UAS System Safety Criteria	University of North Dakota	$213,895
9/4/2014	Navneet Garg	CTT14G009	A Stress History Based Approach for Predicting Deformation Potentials of Granular Base and Sub base Layers in Airport Pavements	The Board of Trustees of the University of Illinois	$220,000
8/8/2014	Ian Johnson	CTT14G010	Research Proposal for Data-Link Weather in the Cockpit Training Tools and Strategies	Embry-Riddle Aeronautical University	$218,000
9/2/2014	Tom McCloy	CTT14G011	Complexity: Definitions, Empirical Findings and Recommendations for Training and Design	Regents of the University of Michigan	$171,935
9/2/2014	Richard Lyon	CTT14G012	New Approaches to Non-Flammable Polymer Materials and Composites	University of Massachusetts Amherst	$144,787
9/2/2014	Robert McGuire	CTT14G013	Unsolicited Proposal for the FAA Small Airplane Directorate to Develop and Flight Test a Low-Cost Accurate Angle of Attack Differential Pressure System for Light General Aviation Aircraft	Embry-Riddle Aeronautical University	$119,495
9/5/2014	Tong Vu	CTT14G014	An Integrated Approach to Safety and Security in Aircraft Network Systems	Massachusetts Institute of Technology	$149,198
9/11/2014	James Fee	CTT14G015	Global Safety Information Project	Flight Safety Foundation, Inc.	$2,600,000
9/12/2014	Navneet Garg	CTT14G016	Instrumentation and Analysis of Airfield Pavement Response	The Board of Trustees of the University of Illinois	$300,000
9/15/2014	Jeffrey Gagnon	CTT14G017	Conductive Concrete for Airfield Heated Pavement Construction	Board of Regents, Univ of Nebraska, Univ of Nebraska-Lincoln	$276,469
9/17/2014	Philip Maloney	CTT14G018	Unmanned Aircraft System Sense and Avoid Research	Illinois Institute of Technology	$250,000
1/14/2015	Karen Buondonno	CTT15G001	Visualization of Unmanned Aircraft Systems (UAS) within a CAVE (TM) Virtual Reality Environment: A Feasibility Project	Rowan University	$149,995
1/22/2015	Sohrob Mottaghi	CTT15G002	Further Airframe Usage and Operati0nal Loads Monitoring of ASM/Lead Aircraft	Wichita State University	$99,910
2/6/2015	Albert Larkin	CTT15G004	Evaluation of Airfield Pavement Responses under F/HWD and Moving Aircraft Loading	Rutgers, The State University of New Jersey	$82,687
3/11/2015	Ryan King	CTT15G005	Indoor Navigation of Airport Terminals by People with Impaired Vision	Regents of the University of Minnesota	$111,940
3/11/2015	Jerry Crutchfield	CTT15G006	Development of Design Concepts and Algorithms in Eye Tracking Research for a Multi-element Objects Tracking and Controlling Task to Support Human Performance Analysis	Board of Regents of the University of Oklahoma	$49,545
4/8/2015	David Galella	CTT15G007	Nondestructive Residual Stress Profiling Based on Hall Coefficient Measurement	University of Cincinnati	$400,009
7/7/2015	Navneet Garg	CTT15G011	Performance Prediction and Analysis of Airfield Pavements Subjected to Next Generation Aircraft	Texas A&M Transportation Institute	$218,731
7/30/2015	David Moorcroft	CTT15G012	Determining Loss of Consciousness in Fighters and Development of Associated Injury Assessment Reference Values	Cleveland Clinic Foundation	$687,111
7/7/2015	Steven Summer	CTT15G013	Development of NexGen Burner for Power Plant Applications and Evaluation of Power Plant Fire Test Equipment	University of Cincinnati	$140,135
7/20/2015	David Brill	CTT15G014	Implementing a Multiple-Slab Response Model for Top-Down Cracking Mode in Rigid Airport Pavements	Iowa State University of Science and Technology	$204,004

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Active International Agreements in FY 2015						
Effective Date	**FAA R&D Program**	**FAA POC**	**Agreement Number**	**Agreement Title**	**Partner**	**Objective**
6/18/1970	Aircraft Icing	Warren Underwood	MOC NAT- I-0831 PA-17	Deicing and Anti-Icing Research	Transport Canada	Deicing and Anti-Icing Research: The investigation of aerodynamic flow-off characteristics of anti-icing fluids contaminated with different types of frozen precipitation; the investigation of the effectiveness of proposed laboratory test procedures in evaluating aircraft anti-icing fluids' failure modes in mixed icing conditions; and the investigation into other associated aircraft deicing problems and issues.
9/11/1989	Aviation Alternative Fuels		NAT- I-9406-2	Sustainable Aviation Alternative Fuels	Dept. of Resources, Energy and Tourism, Australia	Establish a method for promotion, development and use of sustainable aviation alternative fuels.
7/10/2001	System Safety Management	John Lapointe	AIA/CA-52	Aviation System Safety	CAA - Netherlands	Establishes a method of cooperation in R&D programs in the area of aviation system safety including the risks to the public connected with civil aviation activities and operations in the vicinity of airports.
7/10/2001	System Safety Management	John Lapointe	AIA/CA-52-8	Aviation System Safety:	CAA - Netherlands	Cooperatively study risk, safety modeling and safety analysis
4/2/2004	Fire Safety	Constantine Sarkos	AIA/CA-41 Annex 3 Appendix 7		CAA – United Kingdom	Establish a method of cooperation in performing research to improve passenger survivability during aircraft emergencies or accidents involving fire.
9/24/2004	Wake Vortex Research	Paul Fontaine	NAT- I-3454-1	Air Traffic Management Research	EUROCONTROL	Air Traffic Management Research: Collaborate and share experiences on various ATM research topics that are of interest to both the U.S. and Europe.
9/24/2004	Environmental Modeling for ATM and Safety Management Techniques	Lourdes Maurice	NAT-I- 3454-5	Harmonizing Safety and Environmental Factors	EUROCONTROL	Collaborate on and share methods for evaluating safety management, ATM security and ATM environmental factors.
6/19/2007	Airport Technology Capacity	Albert Larkin	AIA/CA-5 Annex 16		La Direction Generale de L'Aviation Civile (DGAC)	Coordination of R&D activities and the sharing of information resulting from related studies, tests, and analyses in the field of airfield pavement
4/04/2011	NextGen/SESAR Cooperation	Darryel Adams	NAT- I-9406-1	NextGen/SESAR Cooperation for Global Interoperability	European Union	Establish cooperation on global interoperability of ATM modernization programs, NextGen and SESAR
12/9/2011	Aircraft Icing	Chris Dumont	NAT-I-8417 Annex 1	Aircraft Icing and Propulsion Systems Research	National Research Council of Canada	Aircraft and Propulsion System Icing Research (Annex 1 to MOC): This agreement forms cooperative research on simulation of ice crystal environments for the investigation of effects of such environments on engines.
10/7/2011	Aircraft Icing		CON-I-2901-1	Aircraft Icing	Bureau of Meteorology (BOM), Australia	Research of inflight icing conditions, including supercooled large droplet conditions.
10/7/2011	Aircraft Icing		CON-I-2901-1-1	Atmospheric Icing Flight Research	Bureau of Meteorology (BOM), Australia	Research of inflight icing environments and the instrumentation used to measure the variables employed to describe those environments.
2/12/2013	ATM Performance Measurement	Darryel Adams	NAT- I-9406-2	Collaboration on ATM Performance Measurement	European Union	US-EU Coordination of ATM-related Operational Performance Reports
9/24/2013	ATM Performance Measurement	Ahmad Usmani	NAT-I-3001	Collaboration on ATM	CAA- Singapore	Establish cooperation in performing ATM modernization
12/9/2013	Aircraft Icing	Jim Riley	CON-I-3101-1	Aircraft Icing Research	Centre National de la Recherche Scientifique	Research of in-flight icing conditions, including convective weather ice crystal and supercooled large droplet icing conditions
12/9/2013	Aircraft Icing	Jim Riley	CON-I-3101-1-1	Atmospheric Icing Flight Research	Centre National de la Recherche Scientifique	Research of inflight icing environment and the instrumentation used to measure the variables employed to describe those environments.
9/3/2014	Alternative Fuels	Monica Merritt	NAT-I-8417 Annex 4	Alternative Fuel Research	National Research Council of Canada	Aircraft and Propulsion System Alternative Fuels Research

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42251	Aircraft Icing	Warren Underwood	CON-I-5102-1-1	Aircraft Icing	Finnish Transport Safety Agency (Trafi)	Aircraft icing research, including frost formation studies, computation fluid dynamics for ground de/anti-icing fluids and de/anti-icing fluids aerodynamics characteristics.